GW25-e3092

Influence of Olmesartan on Heart Function in Patients with Chronic Congestive Heart Failure

Guo Linlin, Wang Tao, Zhao Liang-Ge, Bu Xiao-Cui, Cao Guang-Zhi
The Affiliated Cardiovascular Hospital Of Medical College

Objectives: To study the effects 0f olmesartan in patients with chronic congestive heart failure (CHF).
Methods: 120 patients with chronic congestive heart failure (II-IV) were randomly assigned into two groups: Olmesartan group (Group I, n=60), Valsartan group (Group II, n=60), regular therapy (cardiotonic, diuretic, aldosterone receptor antagonist, beta-blockers and so on) were given to all patients, olmesartan and valsartan were separately given to the two groups in addition to the regular therapy. Two groups of left ventricular systolic dysfunction, ejection fraction, and NT-ProBNP were observed before and after treatment in 8 weeks later.
Results: At Group I and II, there were significant difference in the left ventricular end-diastolic diameter ($P<0.05$), left ventricular ejection fraction ($P<0.05$) and the level of NT-proBNP ($P<0.01$) before and after treatment, but there were no significant difference between Group I and II after treatment ($P>0.05$).
Conclusions: Olmesartan and conventional heart failure therapy in patients with chronic heart failure can effectively improve heart function, and not worse than valsartan.

GW25-e3486

Variety and clinical significance of serum 2-oxoglutarate in chronic heart failure

Chen Pingan, Ding-Li Xu
Department of Cardiology, Nanfang Hospital, Southern Medical University, Guangzhou, China

Objectives: Our goals were to test the hypotheses that whether the serum concentration of 2-oxoglutarate is associated with the severity of chronic heart failure (CHF), and to assess the predictive value of 2-oxoglutarate to the prognosis of CHF.
Methods: 219 CHF patients and 66 healthy controls were enrolled. Serum 2-oxoglutarate was assayed with Agilent 6460 LC/MS/MS. CHF patients were classified into 4 groups according to the levels of NT-proBNP and NYHA classification respectively. Subjects were followed for death or recurrent hospital admission due to CHF for the mean follow-up time 6.64±0.16 months.
Results: Serum 2-oxoglutarate was higher in CHF patients compared with controls ($P<0.01$). Serum 2-oxoglutarate levels were lower in the group NYHA 1 than those in the group NYHA 3 and 4. Compared with the group NYHA 3 and 4, the similar results were found in the group NYHA 2. According to receiver operator characteristic curve analysis, the optimal cut-off value of 2-oxoglutarate to predict severity of CHF was over 19.732 μg/ml, (area under the curve 0.679, 95% CI 0.608-0.750). Kaplan-Meier survival curves showed an association between high 2-oxoglutarate levels and increased short adverse outcomes in CHF. Pearson correlation showed that Log 2-oxoglutarate was significantly correlated with Log NT-proBNP ($r=0.283$, $P<0.01$), eGFR ($r=0.142$, $P=0.036$) and NYHA classification ($r=0.284$, $P<0.01$), inversely correlated with age ($r=-0.269$, $P<0.01$) and Log LVEF ($r=-0.192$, $P<0.01$).
Conclusions: Serum 2-oxoglutarate was higher in CHF patients compared with controls. The levels of serum 2-oxoglutarate can reflect the clinical severity of CHF. Patients with low LVEF had high levels of 2-oxoglutarate. Serum 2-oxoglutarate also can reflect the short-term outcome of CHF.

GW25-e0804

A prospective study on autologous bone marrow mononuclear cell transplantation in ischemic heart failure

Qin Jie[1], Xiaoli Wang[2], Mingjun Bai[1], Shaohong Huang[3], Jie Qin[1]
[1]Department of Radiology, the Third Affiliated Hospital of Sun Yat-sen University, Guangzhou 510630, China, [2]Department of Ultrasound, the Third Affiliated Hospital of Sun Yat-sen University, Guangzhou 510630, China, [3]Division of Cardiothoracic Surgery, the Third Affiliated Hospital of Sun Yat-sen University, Guangzhou 510630, China

Objectives: To determine whether autologous bone marrow mononuclear cell (ABMMC) transplantation for heart failure can improve left ventricular ejection fraction (LVEF).
Methods: 110 ischemic heart failure patients were enrolled. After 4- to 12-week pharmacotherapy optimization, 42 patients with LVEF ≤45% received injections of ABMMC or vehicle intra-operatively into the myocardial infarction border area in a randomized, double-blind manner.
Results: Myocardial scar size by magnetic resonance imaging (MRI) in injected segments rose by 5.4% among controls (interquartile range [IQR]: -3.2-11.2), fell by 12.6% in the BMMC group (IQR: -22.4- -8.5) ($P=0.001$).The median number of cells injected was 8.6×10^8 (IQR: 5.4×10^8-14.5×10^8). LVEF and myocardial scar size were measured by MRI and viability was assessed by positron emission tomography (PET), pre-operatively and after 1-year follow-up. LVEF improved by 5.4% in the control group (IQR: 0.3-10.4) and by 4.9% in the ABMMC group (IQR 0.7-8.5) ($P=0.56$). Wall thickening in injected segments rose by 4.6% among controls (IQR -18.4-24.6) and by 5.4% in the ABMMC group (IQR -8.6-25.5) ($P=0.58$). Changes in viability by PET were not significantly different between groups.
Conclusions: ABMMC transplantation for heart failure can reduce myocardial scar size, while failed to improve LVEF.

GW25-e1113

History of left bundle branch block predicts clinical outcomes in patients with dilated cardiomyopathy undergoing cardiac resynchronization therapy

Liang Yuanhong, Wu Shulin
Guangdong General Hospital, Department of Cardiology, Guangdong Cardiovascular Institute

Objectives: This study to explore the clinical outcomes and predictor of cardiac resynchronization therapy (CRT) in left bundle branch block patients with non-ischemic dilated cardiomyopathy undergoing cardiac resynchronization therapy.
Methods: Twenty-seven LBBB patients with severe heart failure were treated with CRT. Twenty-six LBBB patients without CRT served as control. During 6 months follow-up, ECG, plasma NT-proBNP and echocardiogram including indexes left ventricular end diastolic diameter (LVEDD), left ventricular end systolic volume (LVESV), Mitral regurgitation area (MRA), left ventricular ejection fraction (LVEF) were measured.
Results: Compared with baseline, NYHA functional class of 23 patients (85.2%) was improved in CRT group. Compared with baseline and control, QRS duration (QRSd) was significantly more narrow (129.6±9.5 ms vs. 158.1±9.2 ms, $P=0.023$; 129.6±9.5 ms vs. 161.3±11.2 ms, $P=0.019$), NT-proBNP was significantly lower ($P=0.011$, $P=0.009$). Compared with control, LVEF, LVEDD, LVESV and MRA were significantly improved in CRT group (49.5±7.6 vs. 29.9±8.3 $P<0.01$; 53±9 mm vs. 62±14 mm $P<0.01$; 161±43.6 vs. 237±55.6 $P<0.01$; 4.4±0.8 vs. 8.5±1.6 cm^2 $P<0.01$). when the LBBB history was ≥2 years and QRSd ≥155 ms, the sensitivity and specificity of CRT super-response were 53.4% and 85.6% respectively.
Conclusions: CRT can improve the synchronization and hemodynamic of LBBB patients with nonischemic dilated cardiomyopathy, the LBBB history ≥2 years and QRSd ≥155 ms are one of the CRT super-response predictors.

GW25-e1679

Rhythm verse rate control in patients with atrial fibrillation and heart failure: An updated meta-analysis of randomized controlled trials

Shen Dongli, Guohui Zhang
Department of Cardiology, the affiliated People's Hospital of Jiangsu University, Zhenjiang, Jiangsu, China

Objectives: Several clinical studies showed inconsistent results of rhythm control in patients with heart failure (HF) and atrial fibrillation (AF). We hypothesized that rhythm control had a better outcome than rate control in these patients.
Methods: PUBMED, EMBASE and the Cochrane Library were searched for randomized controlled trials (RCTs). Statistical heterogeneity was assessed using I^2 statistic and Cochran's Q statistic. Risk ratio (RR) with 95% confidence intervals (CIs) were calculated to compare the all-cause mortality, hospitalizations, stroke or thromboembolic events, and the quality of life and the change in LVEF were extracted as weighted mean differences (WMD) and 95% CIs between rate control and rhythm control.
Results: Eight RCTs with 2783 patients were included in the analysis. Rhythm control had no advantages on all-cause mortality (RR 0.67; 95% CI 0.43-1.05, $P=0.08$) or stroke/thromboembolic events (RR 0.89; 95% CI 0.59-1.37, $P=0.61$), but higher risk of hospitalization (RR 1.09, 95% CI 1.02-1.16, $P=0.01$) compared with rate control strategy. However, rhythm control strategy might improve the LVEF (WMD 7.64; 95% CI 5.17-10.11, $P<0.001$) and the quality of life (WMD -8.21; 95% CI -11.24-5.19, $P<0.001$) in patients with AF and HF.
Conclusions: The present analysis suggests that rhythm control strategy might improve the LVEF and quality of life in patients with AF and HF. However, there was no sufficient evidence to support the advantages of rhythm control strategy on hospitalization, stroke/thromboembolic events, or all-cause mortality.

GW25-e3203

Hemodynamic effects of short-term infusion of recombinant human atrial natriuretic peptide (rhANP) for congestive heart failure: a randomized, double-blind, placebo-controlled study

Wang Pengbo[1], Huang Jie[1], Tan Huiqiong[1], Liu Wenxian[2], Zhang Jian[1], Liao Zhongkai[1], Yu Litian[1], Mao Yi[1], Ye Shaodong[1], Feng Lei[1], Zhang Yuhui[1], Wang Yang[1], Li Wei[1], Luan Xiaojun[1], Wang Sijia[1], Bai Shugong[2], Wang Guogan[1]
[1]Fu Wai Hospital, [2]Anzhen Hospital

Objectives: This study was designed to confirm hemodynamic effects of short-term infusion of recombinant human atrial natriuretic peptide (rhANP) at the prespecified dose in patients with congestive heart failure compared to placebo when both were added to standard care.
Methods: After the placement of a Swan-Ganz catheter, 121 patients with a pulmonary-capillary wedge pressure (PCWP) of 13 mmHg or higher were randomly assigned to double-blind treatment with placebo or rhANP (initiated at a rate of 0.1μg/kg/min, adjusted to 0.15 μg/kg/min half an hour later if the systolic blood pressure was more than 100 mmHg and the PCWP was 15 mmHg or higher, and stopped one hour later from the initiation). The hemodyamic parameters were